



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/077,415	02/15/2002	Jens Wildhagen	450117-03851	3295

20999 7590 08/03/2004

FROMMER LAWRENCE & HAUG
745 FIFTH AVENUE- 10TH FL.
NEW YORK, NY 10151

EXAMINER

LE, NHAN T

ART UNIT	PAPER NUMBER
----------	--------------

2685

DATE MAILED: 08/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/077,415

Applicant(s)

WILDHAGEN, JENS

Examiner

Nhan T Le

Art Unit

2685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7, 10-13, 15 and 16 is/are rejected.
- 7) ☒ Claim(s) 5, 8, 9, 14, 17 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1, 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Okamoto (US 6,148,008).

As to claims 1, 10, Okamoto teaches a broadcast receiver, comprising: a first tuner receiving a broadcast program on a predetermined frequency of a predetermined broadcast system (see fig. 1, number 11, col. 6, lines 45-54), a second tuner receiving the broadcast program on an alternative frequency of the predetermined broadcast system or of an alternative broadcast system (see fig. 1, number 12, col. 55-64), and a delay unit receiving an output signal of the first tuner and an output signal of the second tuner to compensate a time delay between said both output signals (see fig. 1, number 13, col. 6, lines 65-67, col. 7, lines 1-8).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2685

invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2, 4, 6, 7, 11, 13, 15, 16, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto (US 6,148,008) in view of Lynch et al (US 6,314,127).

As to claims 2, 11, Okamoto fails to teach a broadcast receiver according to claim 1, characterized by a correlation unit within the delay unit to determine the time delay between the output signal of the first tuner and the output signal of the second tuner. Lynch teaches a broadcast receiver, characterized by a correlation unit within the delay unit to determine the time delay between the output signal of the first tuner and the output signal of the second tuner (see Lynch fig. 1, number 48, col. 6, lines 15-34). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Lynch into the system of Okamoto in order to determine the correlation between the average power of a pair of the delayed signals over a group of measurement cycles (as cited in Lynch, col. 6, lines 20-25). The combination of Okamoto and Lynch fails to teach the correlation unit within the delay unit. However, it is obvious to one skill in the art to place the correlation unit within the system in order to simplify the system.

As to claims 4, 13, the combination of Okamoto and Lynch teaches a broadcast receiver according to claim 1, characterized by a first variable delay element within the delay unit to delay the output signal of the first tuner in case the output signal of the first tuner advances the output signal of the second tuner, and a second variable delay element within the delay unit to delay the output signal of the second tuner in case the

output signal of the second tuner advances the output signal of the first tuner (see fig. 1, numbers 36, Lynch col. 4, lines 30-45).

As to claims 6, 15, the combination of Okamoto and Lynch teaches a broadcast receiver according to claim 1, characterized by an amplitude adaptation unit receiving an output signal of the first tuner and an output signal of the second tuner via the delay unit to compensate an amplitude difference between the both time delay compensated output signals (see Lynch fig. 1, number 50, col. 6, lines 15-48).

As to claims 7, 16, the claims are rejected as to claims 6,15 above.

As to claim 19, the combination of Okamoto and Lynch teaches a computer program product, characterized by computer program means adapted to perform the method steps defined claims 10 when it is executed on a computer, digital signal processor or the like (see Lynch col. 6, lines 15-34, 49-63).

3. Claims 3, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto (US 6,148,008) in view of Lynch et al (US 6,314,127) and further in view of Grill (US 6,629,078)

As to claims 3, 12, the combination of Lynch and Okamoto fails to teach a broadcast receiver according to claim 2, characterized in that the correlation unit receives a respective mono signal of the output signal of the first tuner and of the output signal of the second tuner. Grill teaches the mono signal is to be correlated with the right hand and left hand channels in order to provide stereo information (see col. 6, lines 4-12). Therefore, it would have been obvious to one of ordinary skill in the art at the time

the invention was made to provide the teaching of Grill into the system of Okamoto and Lynch in order to provide stereo information.

Allowable Subject Matter

Claims 5, 8, 9, 14, 17, 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 5, 14, the applied reference fails to teach a broadcast receiver, characterized in that the first variable delay element delays the output signal of the first tuner with a constant delay at once, by resampling the output signal of the first tuner with a higher sampling rate, i.e. interpolation, for a predetermined period of time till the full delay is achieved and thereafter with a constant delay, or by repeating a predetermined number of single audio samples of the output signal of the first tuner till the full delay is achieved and thereafter with a constant delay, and the second variable delay element delays the output signal of the second tuner with a constant delay at once as cited in the claim.

Regarding claims 8, 17, the applied reference fails to teach a broadcast receiver according to claim 7, characterized in that the subtracter receives a respective low pass filtered mono signal of the time delay compensated output signals of the first tuner and of the second tuner as cited in the claim.

Regarding claims 9, 18, the applied reference fails to teach a broadcast receiver according to claim 7, characterized by respective multipliers in the signal path of the output signal of the second tuner to multiply the output signal so that an amplitude of the

output signal of the second tuner gets adapted to an amplitude of the output signal of the first tuner as cited in the claim.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Malkemes et al (US 2001/0055351) teaches method and apparatus for providing a broadband wireless communication network.

Bell (US 4,450,585) teaches signal switching and combining systems for diversity radio receiving systems.


Knutson et al (US 6,597,750) teaches opposite polarization interference cancellation in satellite communication.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T Le whose telephone number is 703-305-4538. The examiner can normally be reached on 08:00-05:00 (Mon-Fri).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 703-305-4385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nhan Le


EDWARD F. URBAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600